

Object has a mass of 58.4 g
and a density of 8.7 g/mL.

Find the volume.

$$V(\overset{\textcircled{1}}{D}) = \left(\frac{m}{V} \right) V$$

$$\frac{\cancel{D}V}{\cancel{D}} = \frac{m}{D}$$

$$V = \frac{m}{D} = \frac{58.4 \text{ g}}{8.7 \text{ g/mL}} = \overset{\textcircled{2}}{6.71} \overset{\textcircled{1}}{\text{mL}}$$

Object has dimensions of
10 cm by 12 cm by 20 cm and
a density of 0.89 g/cm^3 .

Find the mass.

$$V = (10 \text{ cm})(12 \text{ cm})(20 \text{ cm}) \\ = 2400 \text{ cm}^3$$

$$\rho(D) = \left(\frac{m}{V} \right) V$$

$$m = DV$$

$$= (.89 \text{ g/cm}^3)(2400 \text{ cm}^3)$$

$$= 2136 \text{ g}$$

Volume equations you should know:

— Rectangular Prism:

$$(\text{length})(\text{width})(\text{height})$$

— Cylinder

$$V = \pi r^2 h$$

$$= \pi (\text{radius})^2 (\text{height})$$

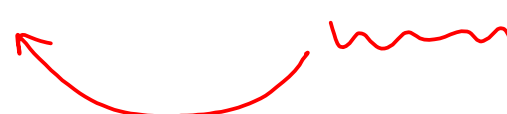
— Sphere

$$V = \frac{4}{3} \pi r^3$$

$$= \left(\frac{4}{3}\right)(\pi)(\text{radius})^3$$

Object is a solid cylinder with
a radius of 5 cm, mass of
50 g, and density of 3 g/cm³.

What is its height?

$$D = \frac{m}{V} \quad V = \pi r^2 h$$


$$h(D) = \left(\frac{m}{\pi r^2 h} \right) h$$

$$\frac{hD}{\cancel{h}} = \left(\frac{m}{\pi r^2} \right) \frac{1}{D}$$

$$h = \frac{m}{\pi r^2 D}$$

$$= \frac{50 \text{ g}}{\pi (5 \text{ cm})^2 (3 \text{ g/cm}^3)}$$

$$= 0.21 \text{ cm}$$